WEST Search History

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DATE: Tuesday, February 20, 2007

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ	
☐	L6	L1 same (mutant? or variant? or mutation?)	4
☐	L5	homoserine transsuccinylase mutant?	1
☐	L4	L1 and (mutant? or variant? or mutation?)	16
☐	L3	homoserine transsuccinylase.clm.	1
☐	L2	homoserine transsuccinylase	23
☐	L1	homoserine transsuccinylase	23

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DATE: Tuesday, February 20, 2007

Hide?	Set Name	Query	Hit Count
	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ		
☐	L9	L8 and (mutation? or mutant? or variant?)	6
☐	L8	homoserine succinyltransferase	6
☐	L7	homoserine succinyltransferase mutant?	0
	DB=PGPB; PLUR=YES; OP=ADJ		
☐	L6	L4 and metA	1
☐	L5	L4 and homoserine transsuccinylase	0
☐	L4	20020106800	1
	DB=USPT; PLUR=YES; OP=ADJ		
☐	L3	L1 and homoserine transsuccinylase	0
☐	L2	L1 and metA	0
☐	L1	5120837	7

END OF SEARCH HISTORY

First Hit Previous Doc Next Doc Go to Doc#

End of Result Set

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L3: Entry 1 of 1 File: PGPB Jul 20, 2006

PGPUB-DOCUMENT-NUMBER: 20060160173
PGPUB-FILING-TYPE:
DOCUMENT-IDENTIFIER: US 20060160173 A1

TITLE: Feedback-resistant homoserine transsuccinylases having a modified c terminus

PUBLICATION-DATE: July 20, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Leonhartsberger; Susanne	Munchen		DE
Winterhalter; Christoph	Pocking		DE
Pfeiffer; Kerstin	Munchen		DE
Bauer; Brigitte	Munchen		DE

US-CL-CURRENT: 435/69.1; 435/193, 435/252.3, 435/471, 536/23.2

CLAIMS:

1. A homoserine transsuccinylase which, as compared with a homoserine transsuccinylase wild-type enzyme, exhibits a reduced sensitivity toward L-methionine or SAM, with the wild-type enzyme possessing an amino acid sequence which comprises a constituent sequence TyrGlnXaaThrPro, with the Thr of this constituent sequence being between position 285 and 310 of the amino acid sequence and with position 1 being the starting methionine, wherein it exhibits a change of at least 2 amino acids as compared with the wild-type enzyme, with this change being in the Thr of the constituent sequence or C-terminally thereof.

2. A homoserine transsuccinylase as claimed in claim 1, wherein it exhibits a change of at least 5 amino acids, preferably of at least 10 amino acids.

3. A homoserine transsuccinylase as claimed in claim 1, wherein it exhibits a resistance toward the inhibitors SAM and/or L-methionine which is increased (increased Ki) at least 2-fold as compared with that of the wild-type enzyme.

4. A homoserine transsuccinylase as claimed in claim 1, wherein it contains one of the mutations listed in Table 1.

5. A metA allele which encodes a homoserine transsuccinylase as claimed in claim 1.

6. A plasmid, wherein it contains a metA allele as claimed in claim 5 together with a promoter.

7. A microorganism strain, wherein it contains a feedback-resistant metA allele as claimed in claim 5.

8. A microorganism strain as claimed in claim 7, wherein it is a Gram-negative bacterial strain, preferably E. coli.

9. A method for preparing L-methionine or SAM by culturing a microorganism strain as claimed in claim 7.

Previous Doc Next Doc Go to Doc#

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=> file medline hcaplus biosis embase biotechds scisearch
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'MEDLINE' ENTERED AT 11:21:28 ON 20 FEB 2007

FILE 'HCAPLUS' ENTERED AT 11:21:28 ON 20 FEB 2007
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=> s homoserine succinyltransferase and (mutation? or mutant? or variant?)
L1          14 HOMOSERINE SUCCINYLTRANSFERASE AND (MUTATION? OR MUTANT? OR
               VARIANT?)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2           9 DUP REM L1 (5 DUPLICATES REMOVED)

=> s l2 and (101 or 294)
L3           0 L2 AND (101 OR 294)

=> s l2 and (?101? or ? 294?)
'?101?' NOT LONG ENOUGH FOR LEFT TRUNCATION
You have entered a truncated stem whose length is less than
the minimum allowed for left truncation in the requested
search field.  You may increase the length of the stem to
the minimum allowed and try again.  Enter HELP SFIELDS to
to find the minimum stem length for left truncation in
the requested search field.

=> s l2 and (101? or  294?)
TERM '294?' EXCEEDED TRUNCATION LIMITS - SEARCH ENDED
You have entered a truncated stem which occurs in too many terms.
Make the stem longer and try again.  For example, if your original
term was 'degr?' to search for variations and the abbreviation for
'degradation', you could replace it with the expression '(degrdn OR
degrad?)'.  If your search term was numeric, e.g., 'C>5', reduce the
size of the range.

=> s l2 and 101
L4           0 L2 AND 101

=> s l2 and 294
L5           0 L2 AND 294

=> d l2 1-9 ibib ab

L2   ANSWER 1 OF 9  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2007:88482  HCAPLUS
TITLE:                   Use of dimethyl disulfide for methionine production in
                         microorganisms
```

INVENTOR(S): Zelder, Oskar; Haefner, Stefan; Herold, Andrea; Klopprogge, Corinna; Schroder, Hartwig; Yocum, R. Rogers; Williams, Mark K.
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: PCT Int. Appl., 99pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007011939	A2	20070125	WO 2006-US27855	20060718

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2005-700698P P 20050718
US 2005-713907P P 20050901

AB The present invention features improved processes and organisms for the prodn. of methionine. The invention demonstrates that a .DELTA.metF organism or a .DELTA.metE AmetH organism, for example, mutants of C. glutamicum or E. coli, can use a Me capped sulfide source, e.g., di-Me disulfide (DMDS), as a source of both sulfur and a Me group, bypassing the need for MetH/MetE and MetF activity and the need to reduce sulfate, for the synthesis of methionine. Also described in this patent are data implicating MetY (also called MetZ) as an enzyme that incorporates a Me capped sulfide source, e.g., DMDS, into methionine. A .DELTA.metF .DELTA.metB strain of C. glutamicum can use a Me capped sulfide source, e.g., DMDS, as a source of both sulfide and a Me group. Furthermore, methionine prodn. by engineered prototrophic organisms that overproduce O-acetyl-homoserine was improved by the addn. of a Me capped sulfide source, e.g., DMDS.

L2 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1026863 HCAPLUS
DOCUMENT NUMBER: 143:340637
TITLE: Lactobacillus acidophilus nucleic acid sequences encoding stress-related proteins and their uses
INVENTOR(S): Klaenhammer, Todd Robert; Altermann, Eric; Azcarate-Peril, Andrea; Mcauliffe, Olivia; Russell, W. Michael
PATENT ASSIGNEE(S): North Carolina State University, USA
SOURCE: PCT Int. Appl., 720 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005086794	A2	20050922	WO 2005-US7506	20050308
WO 2005086794	A3	20061221		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

US 2005250135 A1 20051110 US 2005-74176 20050307
PRIORITY APPLN. INFO.: US 2004-551161P P 20040308
US 2005-74176 A 20050307

AB The current invention provides 185 stress-related nucleic acid mols. and their encoded polypeptides and fragments and variants thereof prepd. from Lactobacillus acidophilus. The stress-related proteins include heat and cold shock proteins, acid and alk. tolerance proteins, osmotic and oxidative stress-related proteins, and starvation-induced proteins. In addn., stress-related fusion proteins, antigenic peptides, and anti-stress-related antibodies are encompassed. The invention also provides recombinant expression vectors contg. a nucleic acid mol. of the invention and host cells into which the expression vectors have been introduced. Methods for producing the polypeptides and methods of use for the polypeptides of the invention are further disclosed.

L2 ANSWER 3 OF 9 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2005287400 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15933025
TITLE: Effects of deregulation of methionine biosynthesis on methionine excretion in Escherichia coli.
AUTHOR: Usuda Yoshihiro; Kurahashi Osamu
CORPORATE SOURCE: Fermentation & Biotechnology Laboratories, Institute of Life Sciences, Ajinomoto Co. Inc., 1-1 Suzuki-cho, Kawasaki-ku, Kawasaki-shi 210-8681, Japan.. yoshihiro_usuda@ajinomoto.com
SOURCE: Applied and environmental microbiology, (2005 Jun) Vol. 71, No. 6, pp. 3228-34.
Journal code: 7605801. ISSN: 0099-2240.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200508
ENTRY DATE: Entered STN: 4 Jun 2005
Last Updated on STN: 15 Aug 2005
Entered Medline: 11 Aug 2005

AB Several regulators of methionine biosynthesis have been reported in Escherichia coli, which might represent barriers to the production of excess l-methionine (Met). In order to examine the effects of these factors on Met biosynthesis and metabolism, deletion mutations of the methionine repressor (metJ) and threonine biosynthetic (thrBC) genes were introduced into the W3110 wild-type strain of E. coli. Mutations of the metK gene encoding S-adenosylmethionine synthetase, which is involved in Met metabolism, were detected in 12 norleucine-resistant mutants. Three of the mutations in the metK structural gene were then introduced into metJ and thrBC double-mutant strains; one of the resultant strains was found to accumulate 0.13 g/liter Met. Mutations of the metA gene encoding homoserine succinyltransferase were detected in alpha-methylmethionine-resistant mutants, and these mutations were found to encode feedback-resistant enzymes in a 14C-labeled homoserine assay. Three metA mutations were introduced, using expression plasmids, into an E. coli strain that was shown to accumulate 0.24 g/liter Met. Combining mutations that affect the deregulation of Met biosynthesis and metabolism is therefore an effective approach for the production of Met-excreting strains.

L2 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:688432 HCAPLUS
DOCUMENT NUMBER: 126:72244
TITLE: Genetic tools for selective labeling of proteins with .alpha.-15N-amino acids
AUTHOR(S): Waugh, David S.
CORPORATE SOURCE: Dep. Physical Chem., Roche Research Cent., Nutley, NJ, 07110, USA
SOURCE: Journal of Biomolecular NMR (1996), 8(2), 184-192
CODEN: JBNME9; ISSN: 0925-2738
PUBLISHER: ESCOM
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A collection of genetic tools that can be used to manipulate amino acid metab. in Escherichia coli is described. The set comprises 21 strains of bacteria, each contg. a different genetic defect that is closely linked to a selectable transposon marker. These tools can be used to construct strains of E. coli with ideal genotypes for residue-specific, selective labeling of proteins with nearly any 15N-amino acid. By using strains which have been modified to contain the appropriate genetic lesions to control amino acid biosynthesis, diln. of the isotype by endogenous amino acid biosynthesis and scrambling of the label to other types of residues can be avoided.

L2 ANSWER 5 OF 9 BIOTECHDS COPYRIGHT 2007 THE THOMSON CORP. on STN
ACCESSION NUMBER: 1990-11344 BIOTECHDS
TITLE: S-metabolism of methionine-rich yeasts; Candida guilliermondii, Candida utilis, Rhodotorula glutinis, Saccharomyces carlsbergensis single cell protein
AUTHOR: Halasz A; Matrai B; Muayad A
LOCATION: Central Food Research, Herman Otto ut. 15, H-1022 Budapest, Hungary.
SOURCE: Acta Aliment.Acad.Sci.Hung.; (1989) 18, 4, 361-85
CODEN: AAASCO
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Candida guilliermondii CBS 5256, Candida utilis CBS 5609, Rhodotorula glutinis CBS 315 and Saccharomyces carlsbergensis were subjected to mild mutagenesis using UV-irradiation or nitrite, and mutants were selected on the basis of increased sulfate requirement. About 25% of these mutants showed an increased methionine content. They were more sensitive to norleucine (a methionine antagonist) than wild-type strains, suggesting that their higher Met content was not due to homoserine-succinyltransferase (EC-2.3.1.46) derepression. The mutants responded to a higher methyl donor concentration by enhanced growth. The lipoic acid concentration of the yeast increased in parallel to the augmentation of sulfur-containing amino acids. The concentration of these amino acids was sensitive to aeration intensity, and dropped at levels above 200 mmol O2/hr.l. This was explained by the utilization of the sulfur derived from sulfate reduction being converted to sulfide by yeast sulfate-reductase, of which lipoic acid is a prosthetic group. Sulfate was a better S-source than methionine. (19 ref)

L2 ANSWER 6 OF 9 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 78044402 EMBASE
DOCUMENT NUMBER: 1978044402
TITLE: Repression of the tyrosine, lysine, and methionine biosynthetic pathways in a hisT mutant of Salmonella typhimurium.
AUTHOR: Brown B.A.; Lax S.R.; Liang L.; et al.
CORPORATE SOURCE: Clayton Found. Biochem. Inst., Univ. Texas, Austin, Tex. 78712, United States

SOURCE: Journal of Bacteriology, (1977) Vol. 129, No. 2, pp. 1168-1170. .
CODEN: JOBAAY
DOCUMENT TYPE: Journal
FILE SEGMENT: 004 Microbiology
022 Human Genetics
LANGUAGE: English

L2 ANSWER 7 OF 9 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 78178718 EMBASE
DOCUMENT NUMBER: 1978178718
TITLE: Norleucine accumulation by a norleucine-resistant mutant of Serratia marcescens.
AUTHOR: Kisumi M.; Sugiura M.; Chibata I.
CORPORATE SOURCE: Res. Lab. Appl. Biochem., Tanabe Seiyaku Co. Ltd, Osaka, Japan
SOURCE: Applied and Environmental Microbiology, (1977) Vol. 34, No. 2, pp. 135-138. .
CODEN: AEMIDF
COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 004 Microbiology
LANGUAGE: English

L2 ANSWER 8 OF 9 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 78036460 EMBASE
DOCUMENT NUMBER: 1978036460
TITLE: Sulfur amino acid auxotrophy in Micrococcus species isolated from human skin.
AUTHOR: Farrior J.W.; Kloos W.E.
CORPORATE SOURCE: Dept. Genet., North Carolina State Univ., Raleigh N.C. 27607, United States
SOURCE: Canadian Journal of Microbiology, (1976) Vol. 22, No. 12, pp. 1680-1690. .
CODEN: CJMIAZ
DOCUMENT TYPE: Journal
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
AB Since methionine and (or) cysteine are required by a large percentage of natural auxotrophic Micrococcus strains isolated from human skin, investigations were directed to determine the specific enzymes affected in sulfur amino acid biosynthesis. Known intermediates in the interrelated cysteine methionine biosynthetic pathways were tested as growth stimulants. Based on these growth studies, sulfur amino acid auxotrophs were grouped into three cysteine classes and five methionine classes. Selected auxotrophs of M. luteus had deficiencies in ATP sulfurylase (EC 2.7.7.4) and adenosine 5 sulfatophosphate (APS) kinase (EC 2.7.1.25), sulfite reductase (EC 1.8.1.2), serine transacetylase (EC 2.3.1.30), or .beta. cystathionase (EC 4.4.1.8) activity; auxotrophs of M. lylae had deficiencies in sulfite reductase and serine transacetylase, .beta. cystathionase, or N5,N10 methyltetrahydrofolate reductase (EC 1.1.1.68) activity; all auxotrophs of M. sedentarius tested had deficiencies in N5,N10 methyltetrahydrofolate reductase activity; auxotrophs of M. nishinomiyaensis had deficiencies in adenosine 3 phosphate 5 sulfatophosphate (PAPS) reductase, sulfite reductase, serine transacetylase, or N5,N10 methyltetrahydrofolate reductase activity; auxotrophs of M. varians had deficiencies in APS kinase, PAPS reductase, sulfite reductase, homoserine O transsuccinylase, .beta. cystathionase, or N5,N10 methyltetrahydrofolate reductase activity; auxotrophs of M. kristinae had deficiencies in serine transacetylase or cystathionine .gamma. synthase (EC 4.2.99.9) activity; auxotrophs of M. roseus had deficiencies in PAPS reductase, sulfite reductase, or serine transacetylase activity. Results of studies with various mutagens

suggested that sulfur amino acid auxotrophy was primarily the result of a single base substitution in usually one or two of the genes controlling biosynthesis. A preliminary study of the amino acid composition of sweat suggested that this important source of nutrients does not contain adequate amounts of cysteine for the growth of cysteine auxotrophs but contains methionine that may be utilized in place of cysteine.

L2 ANSWER 9 OF 9 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 74118263 EMBASE
DOCUMENT NUMBER: 1974118263
TITLE: The control of homoserine O transsuccinylase in a methionine requiring mutant of the blue green alga Anacystis nidulans.
AUTHOR: Delaney S.F.; Dickson A.; Carr N.G.
CORPORATE SOURCE: Dept. Biochem., Univ. Liverpool, United Kingdom
SOURCE: Journal of General Microbiology, (1973) Vol. 79, No. 1, pp. 89-94. .
CODEN: JGMIAN
DOCUMENT TYPE: Journal
FILE SEGMENT: 022 Human Genetics
029 Clinical Biochemistry
LANGUAGE: English

=> s MetA and (101 or 294)
L6 604 META AND (101 OR 294)

=> s l6 and (variant? or mutant?)
L7 27 L6 AND (VARIANT? OR MUTANT?)

=> s l7 and escherichia
L8 1 L7 AND ESCHERICHIA

=> d l8 ibib ab

L8 ANSWER 1 OF 1 BIOTECHDS COPYRIGHT 2007 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-15360 BIOTECHDS
TITLE: New mutants of homoserine-transsuccinylase, useful, when expressed in microorganisms, for production of methionine and S-adenosyl-methionine, also related nucleic acid;
recombinant enzyme production via plasmid expression in host cell for use in feed-additive and disease therapy
AUTHOR: WINTERHALTER C; LEONHARTSBERGER S; PFEIFFER K; BAUER B
PATENT ASSIGNEE: CONSORTIUM ELEKTROCHEM IND GMBH
PATENT INFO: DE 10247437 29 Apr 2004
APPLICATION INFO: DE 2002-1047437 11 Oct 2002
PRIORITY INFO: DE 2002-1047437 11 Oct 2002; DE 2002-1047437 11 Oct 2002
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2004-348936 [33]
AB DERWENT ABSTRACT:
NOVELTY - Homoserine-transsuccinylase (MetA) that contains a mutation, relative to the wild type, and has reduced sensitivity to L-methionine and S-adenosyl-methionine (SAM) is new.
DETAILED DESCRIPTION - Homoserine-transsuccinylase (MetA) that contains a mutation, relative to the wild type, and has reduced sensitivity to L-methionine and S-adenosyl-methionine (SAM) is new. The mutation is: (a) of Asp in sequence (1), present between positions 90 and 115; or (b) of Tyr in sequence (2), present between positions 285 and 310. Where Asp-Gly-X-X-X-Thr-Gly-Ala-Pro (1) Tyr-Gln-X-Thr-Pro (2). X = any amino acid. INDEPENDENT CLAIMS are also included for: (1) the metA alleles (I) that encode the new mutants; (2) plasmids that contain (I); (3) microorganisms that include a

feedback-resistant (I); and (4) method for preparing L-Met or SAM by culturing the organisms of (3).

BIOTECHNOLOGY - Preferred Enzymes: The new metA mutants have at least double, particularly 50 times, the resistance (expressed as Ki) of the wild-type enzyme with respect to Met and SAM. The specification includes a table listing suitable mutants; e.g. (a) GAC (Asp) as codon 101 but TAC (Tyr) at codon 294 is replaced by TGC (Cys); CTC (Leu); GCC (Ala) or is absent; and (b) TAC as codon 294 but codon 101 is AAC (Asn), CAC (His), TGT (Cys) or AGC (Ser). Preferred Organism: This is a Gram-negative bacterium, specifically Escherichia coli. Preparation: The new metA alleles are produced by standard methods of random or targeted mutagenesis, using the wild-type sequence as template.

ACTIVITY - Antidepressant; Hepatotropic; Antiarthritic. No biological data is given.

MECHANISM OF ACTION - None given.

USE - The mutant MetA is expressed in host cells, for production of L-Met (used as feed additive) and SAM (used to treat depression, liver disease and arthritis) (claimed); also for production of Met-containing peptides and metabolites of Met and SAM such as polyamines, lipoic acid; biotin and quinones.

ADVANTAGE - The new mutants are less sensitive than the wild type to feedback inhibition by Met and SAM, so provide improved yields of these compounds. The wild-type MetA from Escherichia coli W3110 retained 2% of its activity in presence of 1 mM Met, and had Ki 0.05 mM; compare 96% and 11 mM for the mutant with Cys instead of Tyr at position 294. For 1 mM SAM corresponding figures were 0.5% and 0.2 mM for the wild type and 92% and 10 mM for the mutant.

EXAMPLE - Plasmid pKP413GAP contains the metA (homoserine-transsuccinylase) gene of Escherichia coli W3110 under control of the GAPDH promoter. It was subjected to site-specific mutation to convert codon 294 (TAC (Tyr) to TGC (Leu), primer sequences reproduced. The resulting 4.3 kb fragment was used to transform E. coli DH5alpha, for production of the mutant enzyme. This was resistant to inhibition by both methionine and its S-adenosyl derivative. (22 pages)

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	49.06	49.27

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-2.34	-2.34

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=> file medline hcaplus biosis biotechds embase scisearch
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                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

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FILE 'HCAPLUS' ENTERED AT 10:34:56 ON 20 FEB 2007
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FILE 'SCISEARCH' ENTERED AT 10:34:56 ON 20 FEB 2007
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=> s homoserine transsuccinylase (mutant? or variant? or mutation?)
MISSING OPERATOR 'CCINYLASE (MUTANT?'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s homoserine transsuccinylase and (mutant? or variant? or mutation?)
L1          27 HOMOSERINE TRANSSUCCINYLASE AND (MUTANT? OR VARIANT? OR MUTATION
               ?)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2           15 DUP REM L1 (12 DUPLICATES REMOVED)

=> s l2 and Escherichia
L3            9 L2 AND ESCHERICHIA

=> d l3 1-9 ibib ab

L3   ANSWER 1 OF 9     MEDLINE on STN
ACCESSION NUMBER:    95173116     MEDLINE
DOCUMENT NUMBER:     PubMed ID: 7868613
TITLE:               Heat shock-dependent transcriptional activation of the metA
                     gene of Escherichia coli.
AUTHOR:              Biran D; Brot N; Weissbach H; Ron E Z
CORPORATE SOURCE:    Department of Molecular Microbiology and Biotechnology,
                     Tel-Aviv University, Israel.
SOURCE:              Journal of bacteriology, (1995 Mar) Vol. 177, No. 5, pp.
                     1374-9.
                     Journal code: 2985120R. ISSN: 0021-9193.
PUB. COUNTRY:        United States
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         199503
ENTRY DATE:          Entered STN: 7 Apr 1995
                     Last Updated on STN: 6 Feb 1998
                     Entered Medline: 27 Mar 1995
AB   In Escherichia coli, the growth rate at elevated temperatures is
     controlled by the availability of endogenous methionine, which is limited
     because of the temperature sensitivity of the metA gene product,
     homoserine transsuccinylase (HTS).  In order to
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determine the relationship between this control mechanism and the heat shock response, we estimated the cellular levels of HTS during heat shock by Western (immunoblot) analysis and found an increase following induction by temperature shift and by addition of ethanol or cadmium ions. The elevated level of HTS was a result of transcriptional activation of the metA gene. This activation was heat shock dependent, as it did not take place in rpoH mutants, and probably specific to the metA gene, as another gene of the methionine regulon (metE) was not activated. These results suggest a metabolic link between the two systems that control the response of E. coli to elevated temperatures: the metA gene, which codes for the enzyme responsible for regulating cell growth as a function of temperature elevation (HTS), is transcriptionally activated by the heat shock response.

L3 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:172138 HCAPLUS
TITLE: Identification of Catalytic Cysteine, Histidine, and Lysine Residues in Escherichia coli Homoserine Transsuccinylase
AUTHOR(S): Ziegler, Katharine; Noble, Schroeder M.; Mutumanje, Elissa; Bishop, Barney; Huddler, Donald P.; Born, Timothy L.
CORPORATE SOURCE: Department of Chemistry Biochemistry, George Mason University, Manassas, VA, 20110, USA
SOURCE: Biochemistry ACS ASAP
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Homoserine transsuccinylase catalyzes the succinylation of homoserine in several bacterial species, the first unique step in methionine biosynthesis in these organisms. The enzyme from Escherichia coli is reported to be a dimer and uses a ping-pong catalytic mechanism involving transfer of succinate from succinyl-CoA to an enzyme nucleophile, followed by transfer to homoserine to form O-succinylhomoserine. Site-directed mutagenesis and steady-state kinetics were used to identify three amino acids that participate in catalysis. Mutation of cysteine-142 to serine or alanine eliminated all measurable activity, suggesting this amino acid acts as the catalytic nucleophile. Cysteine nucleophiles are often deprotonated by histidine residues, and histidine-235 was identified as the sole absolutely conserved histidine residue among family members. This residue was mutated to both alanine and asparagine, and no activity was obsd. with either mutant. Lysine-47 had been previously identified as an essential residue. Mutation of this amino acid to arginine reduced catalytic activity by greater than 90%, while mutation to alanine yielded an enzyme with <1% of wild-type activity. A pH-rate profile of the K47R mutant demonstrated that this amino acid participates in the first half reaction. The data presented here provide the first detailed description of the homoserine transsuccinylase active site and provide a framework for addnl. mechanistic characterization of this enzyme.

L3 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1239041 HCAPLUS
DOCUMENT NUMBER: 144:2275
TITLE: Construction of microorganism containing recombinant homoserine transsuccinylase with altered feedback sensitivity and recombinant S-adenosylmethionine synthetase with reduced activity for the production of methionine
INVENTOR(S): Bestel-Corre, Gwenaeelle Anne Lise; Chateau, Michel; Figge, Rainer Martin; Raynaud, Celine; Soucaille, Philippe Noeel Paul
PATENT ASSIGNEE(S): Metabolic Explorer, Fr.

SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005111202	A1	20051124	WO 2004-IB1901	20040512
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005108561	A2	20051117	WO 2005-EP52180	20050512
WO 2005108561	A3	20060720		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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EP 1747269	A2	20070131	EP 2005-742717	20050512
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				

PRIORITY APPLN. INFO.: WO 2004-IB1901 A 20040512
WO 2005-EP52180 W 20050512
OTHER SOURCE(S): CASREACT 144:2275; MARPAT 144:2275

AB The present invention relates to the use of recombinant homoserine transsuccinylase with altered sensitivity to feedback inhibitors S-adenosylmethionine and methionine (MetA*) and optionally, recombinant S-adenosylmethionine synthetase with reduced activity (MetK*) for the prodn. of methionine, its precursors or derivs. thereof. More specifically, the authors isolated Escherichia coli mutants contg. homoserine transsuccinylase which show decreased feedback-sensitivity towards S-adenosylmethionine and methionine. E. coli mutants contg. S-adenosylmethionine synthetase with reduced activity were also isolated. Construction of E. coli strains for the prodn. of O-succinylhomoserine or methionine by combining feed-back resistant MetA alleles with MetK alleles with decreased activity is described. Fermn. of E. coli prodn. strains and anal. of yield is reported.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1220814 HCAPLUS
DOCUMENT NUMBER: 143:474228
TITLE: Construction of microbial recombinant homoserine transsuccinylase with altered feedback sensitivity and S-adenosyl methionine

synthetase with reduced activity for the production of methionine

INVENTOR(S): Bestel-Corre, Gwenaeelle; Chateau, Michel; Figge, Rainer Martin; Raynaud, Celine; Soucaille, Philippe Noel Paul

PATENT ASSIGNEE(S): Metabolic Explorer, Fr.

SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005108561	A2	20051117	WO 2005-EP52180	20050512
WO 2005108561	A3	20060720		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2005111202	A1	20051124	WO 2004-IB1901	20040512
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1747269	A2	20070131	EP 2005-742717	20050512
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				

PRIORITY APPLN. INFO.:

WO 2004-IB1901	A	20040512
WO 2005-EP52180	W	20050512

OTHER SOURCE(S): CASREACT 143:474228; MARPAT 143:474228

AB The present invention relates to the use of recombinant homoserine transsuccinylase with altered feedback sensitivity (MetA*) and eventually, recombinant S-adenosyl methionine synthetase with reduced activity (MetK*) for the prodn. of methionine, its precursors or derivs. thereof. More specifically, Escherichia coli mutants contg. homoserine transsuccinylase with decreased feedback sensitivity towards methionine and S-adenosylmethionine were isolated. E. coli mutants contg. S-adenosyl methionine synthetase with reduced activity were also isolated. Construction of E. coli strains for the prodn. of O-succinylhomoserine or methionine by combined feed-back resistant MetA alleles with MetK alleles with decreased activity is described. Fermn. of E. coli prodn. strains and anal. of yield is reported.

L3 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:371078 HCAPLUS

DOCUMENT NUMBER: 140:387796

TITLE: Methionine and SAM feedback-resistant homoserine transsuccinylases with modified C-terminus
INVENTOR(S): Leonhartsberger, Susanne; Pfeiffer, Kerstin; Winterhalter, Christoph; Bauer, Brigitte
PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie G.m.b.H., Germany
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004038013	A2	20040506	WO 2003-EP11486	20031016
WO 2004038013	A3	20040624		
W: CA, CN, JP, RU, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
DE 10249642	A1	20040513	DE 2002-10249642	20021024
EP 1570066	A2	20050907	EP 2003-769405	20031016
EP 1570066	B1	20061227		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1705751	A	20051207	CN 2003-80101894	20031016
JP 2006503568	T	20060202	JP 2004-545867	20031016
AT 349546	T	20070115	AT 2003-769405	20031016
US 2006160173	A1	20060720	US 2005-530844	20050408

PRIORITY APPLN. INFO.: DE 2002-10249642 A 20021024
WO 2003-EP11486 W 20031016

AB The invention relates to a homoserine transsuccinylase , which exhibits reduced sensitivity towards L-methionine or SAM in comparison with a homoserine transsuccinylase wild-type enzyme, whereby the latter comprises an amino acid sequence contg. a TyrGlnXaaThrPro sub-sequence, the Thr of said sub-sequence lying between positions 285 and 310 of the amino acid sequence. The inventive homoserine transsuccinylase is characterized in that in comparison with the wild-type enzyme at least 2 amino acids are modified, said modification taking place in the Thr of the sub-sequence or in the C-terminal. Thus, exts. of E. coli contg. metA gene mutants were analyzed for homoserine transsuccinylase activity in the presence of 1 mM Met or SAM. The wild-type enzyme retains 2% and 0.5% activity, resp. One of the mutants exhibited 95% activity under these circumstances. The Ki for Met was 16 mM and for SAM 9 mM.

L3 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:349595 HCAPLUS
DOCUMENT NUMBER: 140:370810
TITLE: Feedback-resistant homoserine transsuccinylase mutants, microorganisms producing them, and their use in production of methionine and SAM
INVENTOR(S): Winterhalter, Christoph; Leonhartsberger, Susanne; Pfeiffer, Kerstin; Bauer, Brigitte
PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie G.m.b.H., Germany
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

DE 10247437	A1	20040429	DE 2002-10247437	20021011
WO 2004035617	A2	20040429	WO 2003-EP10978	20031002
WO 2004035617	A3	20040617		
W: CA, CN, JP, RU, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1549754	A2	20050706	EP 2003-767502	20031002
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1703517	A	20051130	CN 2003-80101208	20031002
JP 2006516092	T	20060622	JP 2004-544072	20031002
PRIORITY APPLN. INFO.:			DE 2002-10247437 A	20021011
			WO 2003-EP10978 W	20031002

AB Homoserine transsuccinylase, which contains at least one mutation compared to a homoserine transsuccinylase wild type enzyme and compared to the wild type enzyme shows a reduced sensitivity to L-methionine or SAM is disclosed. The wild-type enzyme contains a partial sequence AspGlyXaaXaaXaaThrGlyAlaPro between residues 90 and 115 and a partial sequence TyrGlnXaaThrPro between residues 285 and 310. The mutations comprise an amino acid exchange of Asp in AspGlyXaaXaaXaaThrGlyAlaPro or an amino acid exchange of Tyr in TyrGlnXaaThrPro. Thus, the Y294C mutant of E. coli MetA exhibits 96% activity in the presence of 1 mM Met while the wild-type enzyme is almost totally inhibited. The Ki for Met in the mutant is 11 mM, for Met in the wild-type, 0.05 mM. The same mutant show 92% activity in the presence of 1 mM SAM and a Ki of 10 mM, while the wild-type enzyme shows negligible activity and Ki of 0.2 mM.

L3 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:342198 HCAPLUS
DOCUMENT NUMBER: 133:3756
TITLE: L-methionine and its preparation with transgenic Escherichia coli mutants with defective repressor and enhanced homoserine transsuccinylase activity
INVENTOR(S): Usuta, Yoshihiro; Kurahashi, Osamu
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000139471	A	20000523	JP 1998-326717	19981117
PRIORITY APPLN. INFO.:			JP 1998-326717	19981117

AB Described is a method of manufg. L-methionine by cultivating a Escherichia coli mutant with defective repressors (gene metJ), enhanced homoserine transsuccinylase (gene metA) activity, and, optionally, decreased S-adenosyl methionine synthetase activity. Furthermore, the mutants may also have the enhanced activities of cystathionine-.gamma.-synthase and aspartokinase-homoserine dehydrogenase II. Also claimed are the S-adenosyl methionine synthetase (metK) mutants with substitution mutations at 27-Arg.fwdarw.Cys, 296-Ile.fwdarw.Ser, 298-Pro.fwdarw.Leu, or a combination of them. The mutants are free of the synergistic inhibition by L-methionine and S-adenosyl methionine. Prodn. of L-methionine with improved efficiency by using the Escherichia coli mutants was demonstrated.

L3 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1984:524135 HCAPLUS
DOCUMENT NUMBER: 101:124135
TITLE: Expression of the metA gene of Escherichia coli K-12 in recombinant plasmids
AUTHOR(S): Michaeli, Shulamit; Ron, Eliora Z.
CORPORATE SOURCE: George S. Wise Fac. Life Sci., Tel Aviv Univ., Tel Aviv-Jaffa, Israel
SOURCE: FEMS Microbiology Letters (1984), 23(2-3), 125-9
CODEN: FMLED7; ISSN: 0378-1097
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The expression of the metA gene for homoserine transsuccinylase [9030-70-0] was studied in wild-type and in deregulated strains of E. coli K-12 carrying the gene on multicopy plasmids. The mol. wt. of the product synthesized by the metA gene was 40,000; the whole enzyme consisted of 2 subunits. In deregulated strains (i.e., those carrying a metJ mutation), the activity of the metA gene was increased 2-fold. Thus, even when metA is cloned onto a multicopy plasmid, it is under the neg. control of the regulatory metJ gene.

L3 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1982:469190 HCAPLUS
DOCUMENT NUMBER: 97:69190
TITLE: Mechanisms involved in the increased sensitivity of Escherichia coli to microcin 15m at 42.degree.C
AUTHOR(S): Aguilar, Alfredo; Perez-Diaz, Jose C.; Asensio, Carlos
CORPORATE SOURCE: Inst. Enzimol. Patol. Mol., Madrid, Spain
SOURCE: Current Microbiology (1982), 7(2), 83-6
CODEN: CUMIDD; ISSN: 0343-8651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB E. coli Cells show a markedly increased sensitivity to the antibiotic microcin 15m when briefly treated at 42.degree. as compared to the effect at 37.degree.. Furthermore, mutants resistant to the microcin at 37.degree. become sensitive at 42.degree. at microcin concns. that are inactive at 37.degree.. This effect can be overcome by L-methionine. The mechanism involved seems to be based on an apparent inactivation of the homoserine-O-transsuccinylase activity. As previously established, this enzyme suffers a reversible partial inactivation when the cells are shifted to 42.degree. and the action of the microcin at this temp. seems to bring this process to a virtually irreversible stage. In mixed cultures of the microcin-producing strain and 1 E. coli stain sensitive to the antibiotic, a much stronger growth inhibition of the latter strain was obsd. at 42.degree. than at 37.degree..

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(FILE 'HOME' ENTERED AT 10:34:17 ON 20 FEB 2007)

FILE 'MEDLINE, HCAPLUS, BIOSIS, BIOTECHDS, EMBASE, SCISEARCH' ENTERED AT 10:34:56 ON 20 FEB 2007
L1 27 S HOMOSERINE TRANSSUCCINYLASE AND (MUTANT? OR VARIANT? OR MUTAT
L2 15 DUP REM L1 (12 DUPLICATES REMOVED)
L3 9 S L2 AND ESCHERICHIA

=> s l3 and codon 101 or 294
L4 32069 L3 AND CODON 101 OR 294

=> s l3 and (codon 101 or codon 294)
L5 0 L3 AND (CODON 101 OR CODON 294)

=> s l3 and (101 or 294)

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L6            0 L3 AND (101 OR 294)

=> s l3 and Y294C
L7            1 L3 AND Y294C

=> d his

     (FILE 'HOME' ENTERED AT 10:34:17 ON 20 FEB 2007)

     FILE 'MEDLINE, HCAPLUS, BIOSIS, BIOTECHDS, EMBASE, SCISEARCH' ENTERED AT
     10:34:56 ON 20 FEB 2007
L1           27 S HOMOSERINE TRANSSUCCINYLASE AND (MUTANT? OR VARIANT? OR MUTAT
L2           15 DUP REM L1 (12 DUPLICATES REMOVED)
L3            9 S L2 AND ESCHERICHIA
L4        32069 S L3 AND CODON 101 OR 294
L5            0 S L3 AND (CODON 101 OR CODON 294)
L6            0 S L3 AND (101 OR 294)
L7            1 S L3 AND Y294C

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CA SUBSCRIBER PRICE                                    -6.24      -6.24

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